

Abstract

A heat transfer roll for producing sheet material, particularly material having a cross-section whose thickness varies across the width of a sheet being formed, includes a journal on which the roll is rotatably supported, and at least two cooling channels at the surface of the roll that can be supplied with various fluids at various flow rates and temperatures. Fluid in the first and second channels flows at predetermined longitudinal positions at the roll surface. The first channel includes cylindrical spiral portions and the second channel includes a circular cylindrical channel located between the spiral portions. A diverter provides hydraulic flow continuity across the second flow channel to first and second portions of the first flow channel. Risers carry fluid radially outward to the flow channels at the outer surface of the roll.